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Roll No.

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SC

Sardar Patel University

B. Sc. Examination
(Semester - V)

24th October 2018, Wednesday.

Time: 10:00am to 01:00pm

Industrial Chemistry Vocational

COURSE: US05CICV02 (Heavy and Fine Inorganic Chemicals)

Notes: Figures to the right indicate full marks.

Total marks: 70

Q. 1 Answer the following Multiple Choice Questions. (All are compulsory) (10)

- Ammonia synthesis gas is passed through a filter to remove
A. Compression oil
B. H₂S
C. N₂
D. None of these
- In HNO₃ manufacturing, gas passes downward with velocity design to give a contact time of about?
A. 2.5 x 10⁻⁴sec
B. 2.5 x 10⁻³sec
C. 2.0 x 10⁻⁴sec
D. 2.5 x 10⁻²sec
- In yellow phosphorous manufacturing, the furnace gases pass into coolers where the vapors are liquefied and separated from the?
A. CO
B. CO₂
C. NH₃
D. None of these
- In Fluorine manufacturing at which temperature cells are operated?
A. 95^oC-105^oC
B. 105^oC-110^oC
C. 90^oC-95^oC
D. 80^oC-90^oC
- In bromine manufacturing, with which gas acid solution is treated, which reoxidizes the bromine back to free bromine?
A. Chlorine
B. Hydrogen
C. Fluorine
D. Carbon dioxide
- The brine is first aerated to remove most of.....
A. Hydrogen sulfide
B. Carbon dioxide
C. Chlorine
D. None of these
- For which test K₂Cr₂O₇ paper can be used?
A. SO₂
B. CO₂
C. NO₂
D. NO
- In Solvay's process, ammonium carbonate first reacts with CO₂ to form _____.
A. Ammonium bicarbonate
B. Sodium carbonate
C. Sodium bicarbonate
D. None of these
- Which column packing most widely used for adsorption chromatography?
A. Aluminum oxide
B. Starch
C. Inulin
D. Calcium carbonate
- Ninhydrin is used for detecting?
A. Ammonia
B. Phenol
C. Protein
D. None of these.

(1)

(P.T.O.)

Q.2 Answer the following short questions. (Any TEN)

(20)

1. Enlist the raw materials required for manufacture of superphosphate
2. List the unusual characteristics of graphite
3. List the some leading manufacturers of calcium carbide.
4. Enlist various raw materials used for manufacturing sodium sulfite
5. Give the uses of sodium sulfite
6. Define catalyst and give any two example of catalyst
7. Write properties and uses of potassium dichromate
8. Write properties and uses of perchloric acid
9. Enlist various methods for preparation of sodium carbonate
10. Write uses and properties of Methanol.
11. Enlist various solvents used in HPLC
12. What is Nujol?

Q. 3 Enlist various methods of manufacture of phosphoric acid also write with the help of flow diagram for one of method for manufacturing it.

(10)

OR

Q. 3 Discuss the manufacturing of Ammonia and Nitric acid.

(10)

Q. 4 Discuss the manufacturing of Fluorine and Bromine.

(10)

OR

Q. 4 With the help of flow diagram, explain the manufacture of Sodium chloride.

(10)

Q. 5 With the help of flow diagram, explain the manufacture of Lithium aluminium hydride and Sodium borohydride.

(10)

OR

Q. 5 Explain the Solvay's ammonia soda process.

(10)

Q. 6 With the help of flow diagram, explain the manufacture of Chloroform and Carbon tetrachloride.

(10)

OR

Q. 6 Write notes on Ethanol and Potassium bromide.

(10)

— X —

(2)